ORIGINAL

WESTON FEDERAL PROGRAMS DIVISION
HEALTH AND SAFETY PLAN
EMERGENCY RESPONSE / SITE INVESTIGATION

1. SITE INFORMATION

TDD#: 9907-03 PCS#: 5472 Site Name: 12th Street Landfill Site

Site Address: Street Number: Southwest of the intersection (ramps) E. 12th St. + I-495

City/County/State/Zip Code: Wilmington, New Castle County, DE

Site Contact (CAMEC) / Telephone Number: Anne Breslin (302) 395-2610

Site Directions (Attach Map): I-95 South into Delaware to I-495 South. Take 12th street Exit. At end of ramp go right. Go 1/8-mile turn left into Asset Recovery services parking lot. At east end of parking lot, go 300' down railroad spur, then west 200' to Brandywine Creek. Site is in woods along east side of creek.

Historical/Current Site Information: The site consists of 2 land parcels; 19 and 14 along 12th Street. The city of Wilmington currently owns parcel 19. Parcel 14 is currently owned by the state of Delaware. Both parcels were utilized as unauthorized dump sites, in which at least (10) 55-gallon drums, rubber hoses, slag, and a light colored ash-like material were disposed of on the property within the last 25-35 years.

Incident Type: ( ) Air Release:_____ ( ) Spill:_____

( ) Fire:_____ (X) HW Site: unauthorized dump.

Location: (X) Industrial ( ) Commercial ( ) Urban/Residential ( ) Rural

USEPA Contact: Mike Towle SATA Site Leader: (b) (4) [redacted]

Date of Initial Site Activities: 8 / 23 / 99 Site Health and Safety Officer: (b) (4) [redacted]

Original HASP?: (Yes) No Modification Number: 1 2 3 4 5

SDMS DocID 2240078

ORIGINAL

2. RESPONSE ACTIVITIES / DURATION

Emergency Response			*Assessment*		
( ) Perimeter Recon	____hours	days	(X) Perimeter Recon	2 hours	days
( ) Site Entry	____hours	days	(X) Site Entry	8 hours	days
( ) Visual Documentation	____hours	days	(X) Visual Documentation	8 hours	days
( ) Multi-Media Sampling	____hours	days	(X) Multi-Media Sampling	3 hours	days
( ) Decontamination	____hours	days	(X) Decontamination	3 hours	days

3. PHYSICAL HAZARDS TO PERSONNEL

(X) Heat ( ) Cold ( ) Precipitation ( ) Confined Space (X) Terrain

(X) Walking/Working Surfaces ( ) Fire and Explosion ( ) Oxygen Deficiency

( ) Underground Utilities ( ) Overhead Utilities (X) Heavy Equipment

(X) Unknowns in Drums, Tanks, or other Containers ( ) Noise ( ) Ponds, Lagoons or Impoundments

(X) Rivers, Streams or Creeks ( ) Pressurized Containers or Systems

( ) Illumination ( ) Non-Ionizing Radiation ( ) Ionizing Radiation*

*Requires Health Physics Notification / Support

4. BIOLOGICAL HAZARDS TO PERSONNEL

( ) Infectious or Medical Hospital Waste ( ) Non-Domesticated Animals (X) Insects

(X) Poisonous Plants/Vegetation ( ) Raw Sewage

5. TRAINING REQUIREMENTS

(X) 40-Hour General Site Worker Course with three-days supervised experience
( ) 24-Hour Course for limited, specific tasks with one day supervised experience.
( ) 24-Hour Course for Level D Site with one day supervised experience.
(X) 8-Hour Annual Refresher Training.
( ) 8-Hour Management/Supervisor Training.
( ) Site Specific Health and Safety Training. Specify:_____
( ) Pre-Entry training for emergency response skilled support personnel.

6. MEDICAL SURVEILLANCE REQUIREMENTS

(X) Baseline initial physical examination w/ physician certification.
(X) Annual physical examination w / physician certification.
( ) Site-specific medical monitoring protocol (Radiation, Pesticide, PCB, Metals)
( ) Asbestos worker protocol
( ) Exempt from medical surveillance. Reason:_____
( ) Examination required in the event of chemical trauma or exposure.

7. CHEMICAL HAZARDS TO PERSONNEL

ORIGINAL

Physical Parameters	Chemical Contaminant		Chemical Contaminant	
			See MSDS Attached	
Chemical Name Synonyms	Unknowns		Lead	
Exposure Limits	OSHA	ACGIH	OSHA	ACGIH
PEL/TLV	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³
STEL	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³
IDLH	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³
Ceiling	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³
Skin Absorber	Yes No		Yes No	
Physical Form Color / Odor	_____Solid _____Liquid _____Gas Color :_____ Odor:_____		_____Solid _____Liquid _____Gas Color :_____ Odor:_____	
Flammability Data	Flash Point _____ °F or °C LEL____% UEL ____%		Flash Point _____ °F or °C LEL____% UEL ____%	
Vapor Pressure Vapor Density	_____mm/Hg _____Air=1		_____mm/Hg _____Air=1	
Specific Gravity % Soluble in H_2O	_____Water=1 _____% or Insoluble		_____Water=1 _____% or Insoluble	
Incompatible Materials	Acids Bases Oxidizers Other:_____ Metals Water Alcohols Other:_____		Acids Bases Oxidizers Other:_____ Metals Water Alcohols Other:_____	
Routes of Exposure	____Inhalation ____Absorption ____Contact ____Ingestion		____Inhalation ____Absorption ____Contact ____Ingestion	
Symptoms of Acute Exposure	Inhalation:_____ Absorption:_____ Ingestion:_____ Contact:_____		Inhalation:_____ Absorption:_____ Ingestion:_____ Contact:_____	
First Aid Treatment	Eye Contact: Irrigate Immediately Skin Contact: Wash with Soap and Water Breathing: Respiratory Support If Swallowed: Seek Immediate Medical Attention		Eye Contact: Irrigate Immediately Skin Contact: Wash with Soap and Water Breathing: Respiratory Support If Swallowed: Seek Immediate Medical Attention	
Ion Potential	_____eV		_____eV	
Instruments for Detection	____PID w/____eV probe ____FID ____CGI ____Colorimetric Tube ____Monitox ____Jerome (Hg) ____Jerome (H_2S) ____pH Other:_____		____PID w/____eV probe ____FID ____CGI ____Colorimetric Tube ____Monitox ____Jerome (Hg) ____Jerome (H_2S) ____pH Other:_____	
Sampling Method NIOSH OSHA EPA	NIOSH Method #_____ OSHA Method #_____ EPA Method #_____		NIOSH Method #_____ OSHA Method #_____ EPA Method #_____	

ORIGINAL

Physical Parameters	Chemical Contaminant		Chemical Contaminant	
Chemical Name Synonyms				
Exposure Limits	OSHA	ACGIH	OSHA	ACGIH
PEL/TLV	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³
STEL	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³
IDLH	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³
Ceiling	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³
Skin Absorber	Yes No		Yes No	
Physical Form Color / Odor	_____Solid _____Liquid _____Gas Color :_____ Odor:_____		_____Solid _____Liquid _____Gas Color :_____ Odor:_____	
Flammability Data	Flash Point _____ °F or °C LEL_____% UEL _____%		Flash Point _____ °F or °C LEL_____% UEL _____%	
Vapor Pressure Vapor Density	_____mm/Hg _____Air=1		_____mm/Hg _____Air=1	
Specific Gravity % Soluble in H_2O	_____Water=1 _____% or Insoluble		_____Water=1 _____% or Insoluble	
Incompatible Materials	Acids Bases Oxidizers Other:_____ Metals Water Alcohols Other:_____		Acids Bases Oxidizers Other:_____ Metals Water Alcohols Other:_____	
Routes of Exposure	_____Inhalation _____Absorption _____Contact _____Ingestion		_____Inhalation _____Absorption _____Contact _____Ingestion	
Symptoms of Acute Exposure	Inhalation:_____ Absorption:_____ Ingestion:_____ Contact:_____		Inhalation:_____ Absorption:_____ Ingestion:_____ Contact:_____	
First Aid Treatment	Eye Contact: Irrigate Immediately Skin Contact: Wash with Soap and Water Breathing: Respiratory Support If Swallowed: Seek Immediate Medical Attention		Eye Contact: Irrigate Immediately Skin Contact: Wash with Soap and Water Breathing: Respiratory Support If Swallowed: Seek Immediate Medical Attention	
Ion Potential	_____eV		_____eV	
Instruments for Detection	_____PID w/_____eV probe _____FID _____CGI _____Colorimetric Tube _____Monitox _____Jerome (Hg) _____Jerome (H_2S) _____pH Other:_____		_____PID w/_____eV probe _____FID _____CGI _____Colorimetric Tube _____Monitox _____Jerome (Hg) _____Jerome (H_2S) _____pH Other:_____	
Sampling Method NIOSH OSHA EPA	NIOSH Method #_____ OSHA Method #_____ EPA Method #_____		NIOSH Method #_____ OSHA Method #_____ EPA Method #_____	

ORIGINAL

Physical Parameters	Chemical Contaminant		Chemical Contaminant	
Chemical Name Synonyms				
Exposure Limits	OSHA	ACGIH	OSHA	ACGIH
PEL/TLV	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³
STEL	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³
IDLH	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³
Ceiling	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³	_____ppm _____mg/m³
Skin Absorber	Yes No		Yes No	
Physical Form Color / Odor	_____Solid _____Liquid _____Gas Color :_____ Odor:_____		_____Solid _____Liquid _____Gas Color :_____ Odor:_____	
Flammability Data	Flash Point _____ °F or °C LEL____% UEL____%		Flash Point _____ °F or °C LEL____% UEL____%	
Vapor Pressure Vapor Density	_____mm/Hg _____Air=1		_____mm/Hg _____Air=1	
Specific Gravity % Soluble in H_2O	_____Water=1 _____% or Insoluble		_____Water=1 _____% or Insoluble	
Incompatible Materials	Acids Bases Oxidizers Other:_____ Metals Water Alcohols Other:_____		Acids Bases Oxidizers Other:_____ Metals Water Alcohols Other:_____	
Routes of Exposure	____Inhalation ____Absorption ____Contact ____Ingestion		____Inhalation ____Absorption ____Contact ____Ingestion	
Symptoms of Acute Exposure	Inhalation:_____ Absorption:_____ Ingestion:_____ Contact:_____		Inhalation:_____ Absorption:_____ Ingestion:_____ Contact:_____	
First Aid Treatment	Eye Contact: Irrigate Immediately Skin Contact: Wash with Soap and Water Breathing: Respiratory Support If Swallowed: Seek Immediate Medical Attention		Eye Contact: Irrigate Immediately Skin Contact: Wash with Soap and Water Breathing: Respiratory Support If Swallowed: Seek Immediate Medical Attention	
Ion Potential	_____eV		_____eV	
Instruments for Detection	____PID w/____eV probe ____FID ____CGI ____Colorimetric Tube ____Monitox ____Jerome (Hg) ____Jerome (H_2S) ____pH Other:_____		____PID w/____eV probe ____FID ____CGI ____Colorimetric Tube ____Monitox ____Jerome (Hg) ____Jerome (H_2S) ____pH Other:_____	
Sampling Method NIOSH OSHA EPA	NIOSH Method #_____ OSHA Method #_____ EPA Method #_____		NIOSH Method #_____ OSHA Method #_____ EPA Method #_____	

8. DECONTAMINATION PROCEDURES

( ) Wet Decontamination (circle as appropriate): Water DI Water Distilled Water
Alconox Hexane Acetone
Nitric Acid Methanol Soap
Other:_____

(X) Dry Decontamination

Description of Site Specific Decontamination Plan: Disposable sampling equipment will be used. After use the equipment items will be placed into plastic garbage bags along with used PPE and disposed of as municipal trash.

(X) All disposable sampling equipment and PPE is to be double-bagged and disposed of as dry industrial waste.

⇑ ⇑

I understand that this option may only be used if such equipment is not expected to be contaminated.

Adequacy of decontamination determined by: (Visual Observation) Grab Sample
Rinsate Blank Wipe Sample

9. EMERGENCY TELEPHONE NUMBERS

Emergency Contact	Location	Telephone Number	Notified
Hospital (Primary) 501 W. 14th St.	Medical Center of Delaware	302-428-4886	Yes (No)
Hospital (Secondary)			Yes No
Ambulance	Wilmington	911	Yes (No)
Police	Wilmington 12th street	911	Yes (No)
Fire Department	Wilmington	911	Yes (No)

Does Primary Hospital have chemical trauma capability? Yes No

If no, then what is closest back-up? _____ Telephone Number:_____

Directions to Hospital (attach map) - Route verified by:_____ on _____

12th street to Rte 13 (N. Church St.) turn left go over bridge for creek, turn right onto Rte 52 (10th St.), then right onto North Washington street, left onto 14th street. Hospital is on the right. (2-miles from site)
[501 west 14th street]

ORIGINAL

10. ADDITIONAL EMERGENCY TELEPHONE CONTACTS

Contact	Telephone Number
On-Call Mobile Telephone	609-304-3616
Back-Up Telephone	609-304-3617
Team Leader Pager	888-519-5074
Safety Officer Pager	888-519-5084
Equipment Pager	888-519-5087
Weston Emergency Medical Consultant Continuum Healthcare	800-229-3674
OHM Emergency Medical Consultants NDC	757-466-5999 757-466-5818
National Poison Control Center	800-942-5969
CHEMTREC (Emergency)	800-424-9300
CHEMTREC (Non-emergency)	800-262-8200
ATSDR	404-639-0615
ATF (Explosives Information)	800-424-9555
National Response Center	800-424-8802
Regional Response Center	215-814-9016
Utility Markout Services	
Pennsylvania	800-242-1776
Delaware	800-282-8555
Maryland	800-257-7777
Virginia	800-552-7001
West Virginia	800-245-4848
District of Columbia	800-257-7777

11. PERSONAL PROTECTIVE EQUIPMENT

Task to be Performed / Air Monitoring / Sampling Required / Frequency and Type of Air Monitoring	Anticipated Level of Protection	Type of Chemical Protective Coverall	Inner Glove / Outer Glove / Boot Cover	Type of APR Cartridge (MSA)
Task #1 (Site Recon) Drum Sampling HazCat Air Sampling Soil Sampling Mag Survey Sediment Sampling Grid Layout (Site Survey) Soil Gas Survey GW Sampling PRP Monitoring Direct Push Sampling Other:_____ FID (PID) CGI 260 CGI 360 CGI 361 µR Meter Cannonball II Monitox:_____ G-M Meter Jerome Meter (H_2S) Jerome Meter (Hg) Sorbent Tube Detector Tube:_____ RAM DataRam Filter Continuous ✓Periodic: Every 30 min(s) hour(s) **Action Levels** Organic Vapors:_____ppm Particulate: 0.18 mg/m³ Unknown Organic - 0→5 ppm, don "Level C" protection 5→500 ppm, don "Level B" protection LEL: > 10% (Confined Space) >20% Ambient Air O_2: <19.5% >23.5% Radiation: 3 x bkg or 1mR/hr - leave area	Level A SCBA or Airline Level B SCBA or Airline Level C APR or PAPR (Level D)	MSA Chempruf II (BETEX) MSA Chempruf II (VAUTEX) Trelleborg Trellchem HPS Other:_____ Barricade Chemrel Responder Saranex Tyvek Nomex Butyl Splash Apron Cotton Coveralls (Work Uniform) Other:_____	Nitrile Surgical Silver Shield Nitrile Butyl PVA Viton PVC Rubber Neoprene Leather Work Gloves Jersey Gloves Other:_____ Latex Neoprene Nitrile (Steel Toe) Other:_____	GME-H P100/OV/CLHC/SD/AM/MA/ CD/HS/FM/HF GMI-P100 P100/OV/I Mersorb-P100 P100/CL/MV P100-HEPA OV-Organic Vapor CL-Chlorine SD-Sulfur Dioxide CD-Chlorine Dioxide AM-Ammonia FM-Formaldehyde MA-Methylamine I-Iodine HS-Hydrogen Sulfide (Escape) MV-Mercury Vapor HC-Hydrogen Chloride HF-Hydrogen Flouride
Task # 2 Site Recon Drum Sampling HazCat Air Sampling Soil Sampling Mag Survey Sediment Sampling Grid Layout Site Survey Soil Gas Survey GW Sampling PRP Monitoring Direct Push Sampling Other: Vegetation Clearing * A spotter will be used 30' in advance of machinery. FID (PID) CGI 260 CGI 360 CGI 361 µR Meter Cannonball II Monitox:_____ G-M Meter Jerome Meter (H_2S) Jerome Meter (Hg) Sorbent Tube Detector Tube:_____ RAM DataRam Filter Continuous ✓Periodic: Every 30 min(s) hour(s) **Action Levels** Organic Vapors:_____ppm Particulate: D/R mg/m³ Unknown Organic - 0→5 ppm, don "Level C" protection 5→500 ppm, don "Level B" protection LEL: > 10% (Confined Space) >20% Ambient Air O_2: <19.5% >23.5% Radiation: 3 x bkg or 1mR/hr - leave area	Level A SCBA or Airline Level B SCBA or Airline Level C APR or PAPR (Level D)	MSA Chempruf II (BETEX) MSA Chempruf II (VAUTEX) Trelleborg Trellchem HPS Other:_____ Barricade Chemrel Responder Saranex Tyvek Nomex Butyl Splash Apron Cotton Coveralls (Work Uniform) Other:_____	Nitrile Surgical Silver Shield Nitrile Butyl PVA Viton PVC Rubber Neoprene (Leather Work Gloves) Jersey Gloves Other:_____ Latex Neoprene Nitrile (Steel Toe) Other:_____	GME-H P100/OV/CLHC/SD/AM/MA/ CD/HS/FM/HF GMI-P100 P100/OV/I Mersorb-P100 P100/CL/MV P100-HEPA OV-Organic Vapor CL-Chlorine SD-Sulfur Dioxide CD-Chlorine Dioxide AM-Ammonia FM-Formaldehyde MA-Methylamine I-Iodine HS-Hydrogen Sulfide (Escape) MV-Mercury Vapor HC-Hydrogen Chloride HF-Hydrogen Flouride

Task to be Performed Air Monitoring / Sampling Required Frequency and Type of Air Monitoring	Anticipated Level of Protection	Type of Chemical Protective Coverall	Inner Glove Outer Glove Boot Cover	Type of APR Cartridge (MSA)
Task #3 Site Recon (Drum Sampling) HazCat Air Sampling Soil Sampling Mag Survey Sediment Sampling Grid Layout Site Survey Soil Gas Survey GW Sampling PRP Monitoring Direct Push Sampling Other:_____ FID (PID) CGI 260 CGI 360 CGI 361 (µR Meter) Cannonball II Monitox:_____ G-M Meter Jerome Meter (H_2S) Jerome Meter (Hg) Sorbent Tube Detector Tube:_____ RAM DataRam Filter (Continuous) Periodic: Every _____ (s) hour(s) **Action Levels** Organic Vapors:_____ppm Particulate:_____mg/m³ Unknown Organic - 0→5 ppm, don "Level C" protection 5→500 ppm, don "Level B" protection LEL: > 10% (Confined Space) >20% Ambient Air O_2: <19.5% >23.5% Radiation: 3 x bkg or 1mR/hr - leave area	Level A SCBA or Airline (Level B) SCBA or Airline Level C APR or PAPR Level D	MSA Chempruf II (BETEX) MSA Chempruf II (VAUTEX) Trelleborg Trellchem HPS Other:_____ Barricade Chemrel Responder (Saranex) Tyvek Nomex Butyl Splash Apron Cotton Coveralls Work Uniform Other:_____	(Nitrile Surgical) Silver Shield (Nitrile) Butyl PVA Viton PVC Rubber Neoprene Leather Work Gloves Jersey Gloves Other:_____ (Latex) Neoprene Nitrile (Steel Toe) Other:_____	GME-H P100/OV/CLHC/SD/AM/MA/ CD/HS/FM/HF GMI-P100 P100/OV/I Mersorb-P100 P100/CL/MV P100-HEPA OV-Organic Vapor CL-Chlorine SD-Sulfur Dioxide CD-Chlorine Dioxide AM-Ammonia FM-Formaldehyde MA-Methylamine I-Iodine HS-Hydrogen Sulfide (Escape) MV-Mercury Vapor HC-Hydrogen Chloride HF-Hydrogen Flouride
Task # 4 Site Recon Drum Sampling HazCat Air Sampling Soil Sampling Mag Survey Sediment Sampling Grid Layout Site Survey Soil Gas Survey GW Sampling PRP Monitoring Direct Push Sampling Other: Ash-like Material Sampling FID (PID) CGI 260 CGI 360 CGI 361 (µR Meter) Cannonball II Monitox:_____ G-M Meter Jerome Meter (H_2S) Jerome Meter (Hg) Sorbent Tube Detector Tube:_____ RAM DataRam Filter (Continuous) Periodic: Every _____ (min/s) hour(s) **Action Levels** Organic Vapors:_____ppm Particulate: 0.18 mg/m³ Unknown Organic - 0→5 ppm, don "Level C" protection 5→500 ppm, don "Level B" protection LEL: > 10% (Confined Space) >20% Ambient Air O_2: <19.5% >23.5% Radiation: 3 x bkg or 1mR/hr - leave area	Level A SCBA or Airline Level B SCBA or Airline (Level C) (APR) or PAPR Level D	MSA Chempruf II (BETEX) MSA Chempruf II (VAUTEX) Trelleborg Trellchem HPS Other:_____ Barricade Chemrel Responder Saranex (Tyvek) Nomex Butyl Splash Apron Cotton Coveralls Work Uniform Other:_____	(Nitrile Surgical) Silver Shield (Nitrile) Butyl PVA Viton PVC Rubber Neoprene Leather Work Gloves Jersey Gloves Other:_____ (Latex) Neoprene Nitrile (Steel Toe) Other:_____	(GME-H) P100/OV/CLHC/SD/AM/MA/ CD/HS/FM/HF GMI-P100 P100/OV/I Mersorb-P100 P100/CL/MV P100-HEPA OV-Organic Vapor CL-Chlorine SD-Sulfur Dioxide CD-Chlorine Dioxide AM-Ammonia FM-Formaldehyde MA-Methylamine I-Iodine HS-Hydrogen Sulfide (Escape) MV-Mercury Vapor HC-Hydrogen Chloride HF-Hydrogen Flouride

ORIGINAL

Task to be Performed Air Monitoring / Sampling Required Frequency and Type of Air Monitoring	Anticipated Level of Protection	Type of Chemical Protective Coverall	Inner Glove Outer Glove Boot Cover	Type of APR Cartridge (MSA)
Task #5 Site Recon Drum Sampling HazCat Air Sampling (Soil Sampling) Mag Survey (Sediment Sampling) Grid Layout Site Survey Soil Gas Survey GW Sampling PRP Monitoring Direct Push Sampling Other:_____ FID (PID) CGI 260 CGI 360 CGI 361 (µR Meter) Cannonball II Monitox:_____ G-M Meter Jerome Meter (H_2S) Jerome Meter (Hg) Sorbent Tube Detector Tube:_____ RAM DataRam Filter (Continuous) Periodic: Every _____ min(s) hour(s) **Action Levels** Organic Vapors:_____ppm Particulate: D18 mg/m³ Unknown Organic - 0→5 ppm, don "Level C" protection 5→500 ppm, don "Level B" protection LEL: > 10% (Confined Space) >20% Ambient Air O_2: <19.5% >23.5% Radiation: 3 x bkg or 1mR/hr - leave area	Level A SCBA or Airline Level B SCBA or Airline Level C APR or PAPR (Level D)	MSA Chempruf II (BETEX) MSA Chempruf II (VAUTEX) Trelleborg Trellchem HPS Other:_____ Barricade Chemrel Responder Saranex Tyvek Nomex Butyl Splash Apron Cotton Coveralls (Work Uniform) Other:_____	(Nitrile Surgical) Silver Shield Nitrile Butyl PVA Viton PVC Rubber Neoprene Leather Work Gloves Jersey Gloves Other:_____ (Latex) Neoprene Nitrile (Steel Toe) Other:_____	GME-H P100/OV/CLHC/SD/AM/MA/ CD/HS/FM/HF GMI-P100 P100/OV/I Mersorb-P100 P100/CL/MV P100-HEPA OV-Organic Vapor CL-Chlorine SD-Sulfur Dioxide CD-Chlorine Dioxide AM-Ammonia FM-Formaldehyde MA-Methylamine I-Iodine HS-Hydrogen Sulfide (Escape) MV-Mercury Vapor HC-Hydrogen Chloride HF-Hydrogen Flouride
Task # 6 Site Recon Drum Sampling HazCat Air Sampling Soil Sampling Mag Survey Sediment Sampling Grid Layout Site Survey Soil Gas Survey (GW Sampling) PRP Monitoring Direct Push Sampling Other:_____ FID (PID) CGI 260 CGI 360 CGI 361 µR Meter Cannonball II Monitox:_____ G-M Meter Jerome Meter (H_2S) Jerome Meter (Hg) Sorbent Tube Detector Tube:_____ RAM DataRam Filter (Continuous) Periodic: Every _____ min(s) hour(s) **Action Levels** Organic Vapors:_____ppm Particulate: D18 mg/m³ Unknown Organic - 0→5 ppm, don "Level C" protection 5→500 ppm, don "Level B" protection LEL: > 10% (Confined Space) >20% Ambient Air O_2: <19.5% >23.5% Radiation: 3 x bkg or 1mR/hr - leave area	Level A SCBA or Airline Level B SCBA or Airline Level C APR or PAPR (Level D)	MSA Chempruf II (BETEX) MSA Chempruf II (VAUTEX) Trelleborg Trellchem HPS Other:_____ Barricade Chemrel Responder Saranex Tyvek Nomex Butyl Splash Apron Cotton Coveralls (Work Uniform) Other:_____	(Nitrile Surgical) Silver Shield Nitrile Butyl PVA Viton PVC Rubber Neoprene Leather Work Gloves Jersey Gloves Other:_____ (Latex) Neoprene Nitrile (Steel Toe) Other:_____	GME-H P100/OV/CLHC/SD/AM/MA/ CD/HS/FM/HF GMI-P100 P100/OV/I Mersorb-P100 P100/CL/MV P100-HEPA OV-Organic Vapor CL-Chlorine SD-Sulfur Dioxide CD-Chlorine Dioxide AM-Ammonia FM-Formaldehyde MA-Methylamine I-Iodine HS-Hydrogen Sulfide (Escape) MV-Mercury Vapor HC-Hydrogen Chloride HF-Hydrogen Flouride

ORIGINAL

HASP prepared by: (b) (4) Date: 8-17-99

Pre-Review and Approval by RSO: Date: 8/24/99

Modification to original HASP by: Date:

Review and Approval by RSO: Date:

Health Physicist Approval (if required): Date:

⇑ COMPLETE PRIOR TO SITE ACTIVITIES ⇑

12. DIRECT READING INSTRUMENT CALIBRATION DATA

Direct Reading Instrument	Combustible Gas Indicator O_2 Meter	Radiation Survey Meter	P.I.D.	F.I.D.	Colorimetric Tube
Instrument or Tube Type	MSA Model 260 MSA Model 360 MSA Model 361 Cannonball II	Geiger-Mueller MicroR	hNU MicroTip	OVA	
Decal Number					
Calibration Date					
SATA Member					
Cal Check by RSO					

13. PHYSICAL DESCRIPTION OF SITE AND RESPONSE ACTIVITIES

Size of Site: 20 (acres) square feet square miles

Weather: **Cloud Cover** - 1/4 1/2 3/4 Overcast **Humidity**: Low Medium High

Temp: °F or °C Winds - mph from N NE E SE S SW W NW

Nearest Waterway: Brandywine Cr. Distance from Site: 10 (feet) miles

Distance to nearest: Residence: 1 feet (miles) School: 3 feet (miles)

Hospital: feet miles Public Building: 700 (feet) miles

Actions taken on site: Perimeter Monitoring? (Yes) No

Site Entry by SATA? (Yes) No

14. SPECIFIC PPE USED

ORIGINAL

Tasks Conducted	Level of Protection / Specific PPE Used
Task #1	As specified in Section 11 If other: Coverall:_____ Shoe Covers:_____ In Gloves:_____ Out Gloves:_____ Respirator:_____*
Task #2	As specified in Section 11 If other: Coverall:_____ Shoe Covers:_____ In Gloves:_____ Out Gloves:_____ Respirator:_____*
Task #3	As specified in Section 11 If other: Coverall:_____ Shoe Covers:_____ In Gloves:_____ Out Gloves:_____ Respirator:_____*
Task #4	As specified in Section 11 If other: Coverall:_____ Shoe Covers:_____ In Gloves:_____ Out Gloves:_____ Respirator:_____*
Task #5	As specified in Section 11 If other: Coverall:_____ Shoe Covers:_____ In Gloves:_____ Out Gloves:_____ Respirator:_____*
Task #6	As specified in Section 11 If other: Coverall:_____ Shoe Covers:_____ Inn Gloves:_____ Out Gloves:_____ Respirator:_____*

* Change in level of respiratory protection requires RSO approval.

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15. AIR MONITORING SUMMARY LOG

Date: 8 / 31 / 99 Collected by: (b) (4) [redacted]

Station Location	CGI/O_2 Meter Cannonball II	Radiation Meter	PID	FID	Jerome Meter Mercury or H_2S	RAM or PdRAM	Colorimetric Tube
Background Readings	___%LEL ___%O_2 ___ppm CO ___ppm H_2S	___µR/hr ___mR/hr ___CPM	___units	___units	___mg/m³ Hg ___ppm H_2S	6 ug/hr ___µg/m³ or ___mg/m³	___ppm___ ___ppm___ ___ppm___ ___ppm___
TS-DC-04 (drum contents)	___%LEL ___%O_2 ___ppm CO ___ppm H_2S	___µR/hr ___mR/hr ___CPM	2000 units ppm	___units	___mg/m³ Hg ___ppm H_2S	___µg/m³ or ___mg/m³	___ppm___ ___ppm___ ___ppm___ ___ppm___
	___%LEL ___%O_2 ___ppm CO ___ppm H_2S	___µR/hr ___mR/hr ___CPM	___units	___units	___mg/m³ Hg ___ppm H_2S	___µg/m³ or ___mg/m³	___ppm___ ___ppm___ ___ppm___ ___ppm___
	___%LEL ___%O_2 ___ppm CO ___ppm H_2S	___µR/hr ___mR/hr ___CPM	___units	___units	___mg/m³ Hg ___ppm H_2S	___µg/m³ or ___mg/m³	___ppm___ ___ppm___ ___ppm___ ___ppm___
	___%LEL ___%O_2 ___ppm CO ___ppm H_2S	___µR/hr ___mR/hr ___CPM	___units	___units	___mg/m³ Hg ___ppm H_2S	___µg/m³ or ___mg/m³	___ppm___ ___ppm___ ___ppm___ ___ppm___
	___%LEL ___%O_2 ___ppm CO ___ppm H_2S	___µR/hr ___mR/hr ___CPM	___units	___units	___mg/m³ Hg ___ppm H_2S	___µg/m³ or ___mg/m³	___ppm___ ___ppm___ ___ppm___ ___ppm___
	___%LEL ___%O_2 ___ppm CO ___ppm H_2S	___µR/hr ___mR/hr ___CPM	___units	___units	___mg/m³ Hg ___ppm H_2S	___µg/m³ or ___mg/m³	___ppm___ ___ppm___ ___ppm___ ___ppm___

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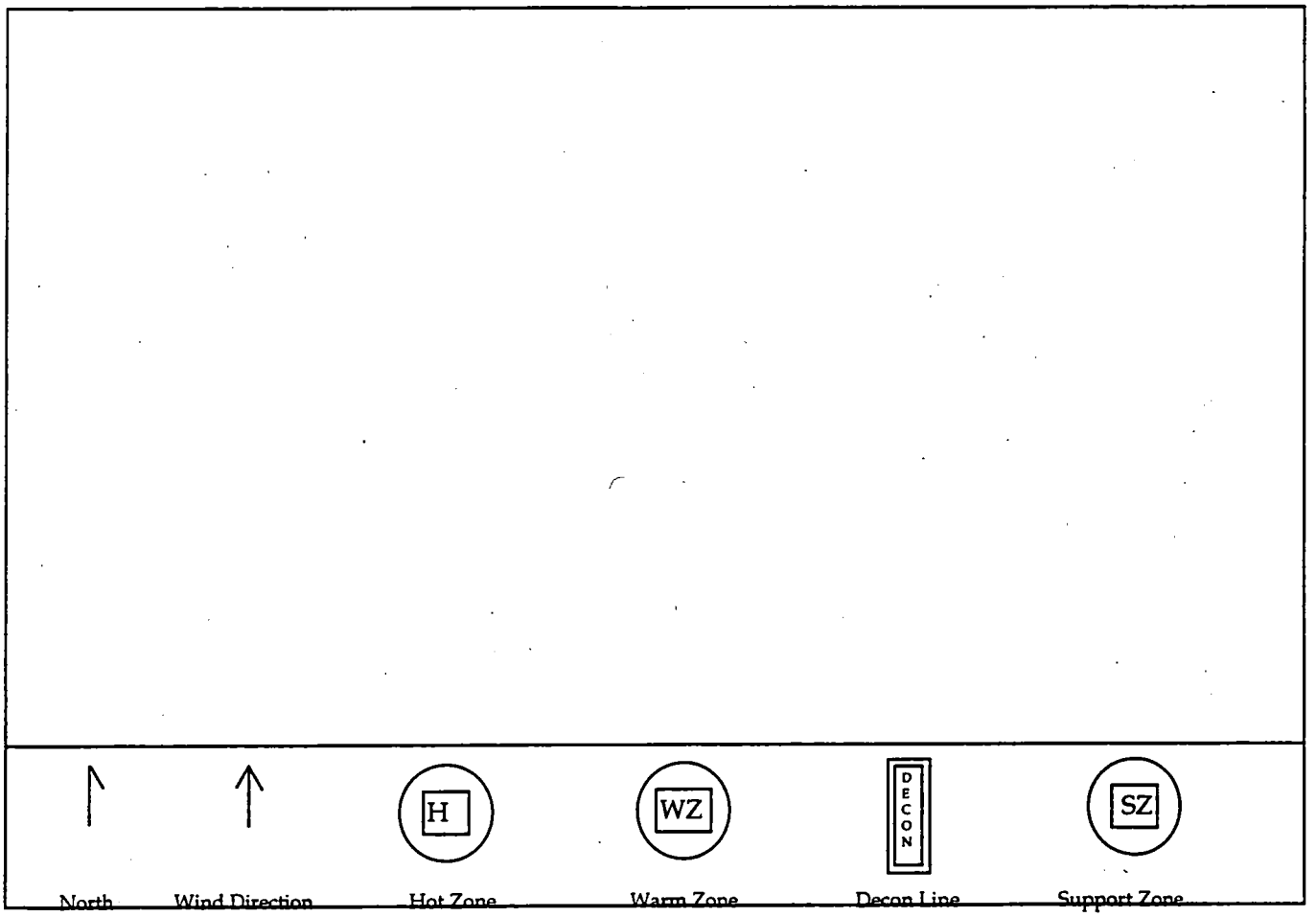
16. SITE CONTROL MEASURES

Site Map with Work Zones



17. HAZARDOUS WASTE SITE AND ENVIRONMENTAL SAMPLING ACTIVITIES

Were samples obtained : Off Site Yes (No)

On Site (Yes) No

Type of Samples (Circle all that apply): Air Surface Water (Ground Water) (Drum) Tank

(Soil) (Sediment) Asbestos Biological Other: Ash-like material

How obtained (circle all that apply): (Scoop) Drum Thief / Coliwasa SS Trowel

Split Spoon Auger Bailer Dredge Bottle Immersion (Pump)

Other:_____

Was Lab Notified of Potential Hazard Level of Samples? (Yes) No

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18. SITE HEALTH AND SAFETY PLAN ACKNOWLEDGMENT

Name (Printed)	Signature	Affiliation	Date
(b) (4) [redacted]			8/26/99
			8/26/99
			8-26-99
			8-26-99
			8/31/99
			9/29/00

Disclaimer: This Health and Safety Plan (HASP) was prepared for work to be conducted under the Site Assessment Technical Assistance (SATA) Contract 68-S5-3002. Use of this HASP by WESTON and its subcontractors is intended to fulfill the OSHA requirements found in 29 CFR 1910.120. Items not specifically covered in this HASP are included by reference to 29 CFR 1910 and 1926.

	Signature	Date
Final Submission of HASP by:		
Does Plan Preparer Need Copy?	Yes No	
Post Response Review by:		9/20/99
Post Response Approval by:		

Comments / Follow Up

NO Site Location map.

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MSDS Material Safety Data Sheet

From: Mallinckrodt Baker, Inc.
222 Red School Lane
Phillipsburg, NJ 08865

MALLINCKRODT J.T.Baker

24 Hour Emergency Telephone: 908-859-2151
CHEMTREC: 1-800-424-9300

National Response in Canada
CANUTEC: 613-996-6666

Outside U.S. and Canada
Chemtrec: 202-483-7616

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

LEAD METAL

MSDS Number: L2347 --- *Effective Date: 12/08/96*

1. Product Identification

Synonyms: Granular lead, pigment metal; C.I. 77575
CAS No.: 7439-92-1
Molecular Weight: 207.19
Chemical Formula: Pb
Product Codes: J.T. Baker: 2256, 2266 Mallinckrodt: 5668

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Lead	7439-92-1	95 - 100%	Yes

3. Hazards Identification

Emergency Overview

POISON! DANGER! MAY BE FATAL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. NEUROTOXIN. AFFECTS THE GUM TISSUE, CENTRAL NERVOUS SYSTEM, KIDNEYS, BLOOD AND REPRODUCTIVE SYSTEM. POSSIBLE CANCER HAZARD. MAY CAUSE CANCER BASED ON ANIMAL DATA. Risk of cancer depends on duration and level of exposure.

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J.T. Baker SAF-T-DATA(tm) Ratings (Provided here for your convenience)

Health Rating: 3 - Severe (Life)
Flammability Rating: 0 - None
Reactivity Rating: 0 - None
Contact Rating: 1 - Slight
Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES
Storage Color Code: Blue (Health)

Potential Health Effects

Inhalation:
Lead can be absorbed through the respiratory system. Local irritation of bronchia and lungs can occur and, in cases of acute exposure, symptoms such as metallic taste, chest and abdominal pain, and increased lead blood levels may follow. See also Ingestion.

Ingestion:
POISON! The symptoms of lead poisoning include abdominal pain and spasms, nausea, vomiting, headache. Acute poisoning can lead to muscle weakness, "lead line" on the gums, metallic taste, definite loss of appetite, insomnia, dizziness, high lead levels in blood and urine with shock, coma and death in extreme cases.

Skin Contact:
Lead and lead compounds may be absorbed through the skin on prolonged exposure; the symptoms of lead poisoning described for ingestion exposure may occur. Contact over short periods may cause local irritation, redness and pain.

Eye Contact:
Absorption can occur through eye tissues but the more common hazards are local irritation or abrasion.

Chronic Exposure:
Lead is a cumulative poison and exposure even to small amounts can raise the body's content to toxic levels. The symptoms of chronic exposure are like those of ingestion poisoning; restlessness, irritability, visual disturbances, hypertension and gray facial color may also be noted.

Aggravation of Pre-existing Conditions:
Persons with pre-existing kidney, nerve or circulatory disorders or with skin or eye problems may be more susceptible to the effects of this substance.

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4. First Aid Measures

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:
Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact:
Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:
Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

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5. Fire Fighting Measures

Fire:
Not considered to be a fire hazard. Powder/dust is flammable when heated or exposed to flame.

Explosion:
Not considered to be an explosion hazard.

Fire Extinguishing Media:
Use any means suitable for extinguishing surrounding fire. Do not allow water runoff to enter sewers or waterways.

Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Can produce toxic lead fumes at elevated temperatures and also react with oxidizing materials.

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6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response

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Center is (800) 424-8802.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Areas in which exposure to lead metal or lead compounds may occur should be identified by signs or appropriate means, and access to the area should be limited to authorized persons. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:
For lead, metal and inorganic dusts and fumes, as Pb: -OSHA Permissible Exposure Limit (PEL): 0.05 mg/m3 (TWA) For lead, elemental and inorganic compounds, as Pb: -ACGIH Threshold Limit Value (TLV): 0.05 mg/m3 (TWA), A3 animal carcinogen ACGIH Biological Exposure Indices (BEI): 30 ug/100ml, notation B (see actual Indices for more information). For lead, inorganic: -NIOSH Recommended Exposure Limit (REL): 0.1 mg/m3 (TWA)

Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):
If the exposure limit is exceeded, a half-face high efficiency dust/mist respirator may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece high efficiency dust/mist respirator may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:
Use chemical safety goggles and/or full face shield where dusting or splashing of solutions

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is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Other Control Measures:
Eating, drinking, and smoking should not be permitted in areas where solids or liquids containing lead compounds are handled, processed, or stored. See OSHA substance-specific standard for more information on personal protective equipment, engineering and work practice controls, medical surveillance, record keeping, and reporting requirements. (29 CFR 1910.1025).

9. Physical and Chemical Properties

Appearance:
Small, white to blue-gray metallic shot or granules.

Odor:
Odorless.

Solubility:
Insoluble in water.

Density:
11.34

pH:
No information found.

% Volatiles by volume @ 21C (70F):
0

Boiling Point:
1740C (3164F)

Melting Point:
327.5C (622F)

Vapor Density (Air=1):
No information found.

Vapor Pressure (mm Hg):
1.77 @ 1000C (1832F)

Evaporation Rate (BuAc=1):
No information found.

10. Stability and Reactivity

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Stability:
Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:
Does not decompose but toxic lead or lead oxide fumes may form at elevated temperatures.

Hazardous Polymerization:
Will not occur.

Incompatibilities:
Ammonium nitrate, chlorine trifluoride, hydrogen peroxide, sodium azide, zirconium, disodium acetylide, sodium acetylide and oxidants.

Conditions to Avoid:
Heat, flames, ignition sources and incompatibles.

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11. Toxicological Information

Toxicological Data:
Investigated as a tumorigen, mutagen, reproductive effector.

Reproductive Toxicity:
Lead and other smelter emissions are human reproductive hazards. (Chemical Council on Environmental Quality; Chemical Hazards to Human Reproduction, 1981).

Carcinogenicity:
EPA / IRIS classification: Group B2 - Probable human carcinogen, sufficient animal evidence.

--------\Cancer Lists\----------

Ingredient	---NTP Carcinogen--- Known	Anticipated	IARC Category
Lead (7439-92-1)	No	No	2B

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12. Ecological Information

Environmental Fate:
When released into the soil, this material is not expected to leach into groundwater. This material may bioaccumulate to some extent.

Environmental Toxicity:
No information found.

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13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated.

15. Regulatory Information

--------\Chemical Inventory Status - Part 1\----------

Ingredient	TSCA	EC	Japan	Australia
Lead (7439-92-1)	Yes	Yes	Yes	Yes

--------\Chemical Inventory Status - Part 2\----------

Ingredient	Korea	--Canada-- DSL	NDSL	Phil.
Lead (7439-92-1)	Yes	Yes	No	Yes

--------\Federal, State & International Regulations - Part 1\----------

Ingredient	-SARA 302- RQ	TPQ	------SARA 313------ List	Chemical Catg.
Lead (7439-92-1)	No	No	Yes	No

--------\Federal, State & International Regulations - Part 2\----------

Ingredient	CERCLA	-RCRA- 261.33	-TSCA- 8(d)
Lead (7439-92-1)	10	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No
Reactivity: No (Pure / Solid)

Prop 65:
THIS PRODUCT CONTAINS CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

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Australian Hazchem Code: No information found.
Poison Schedule: S6

WHMIS:
This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

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16. Other Information

NFPA Ratings: Health: 3 **Flammability:** 1 **Reactivity:** 0

Label Hazard Warning:
POISON! DANGER! MAY BE FATAL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. NEUROTOXIN. AFFECTS THE GUM TISSUE, CENTRAL NERVOUS SYSTEM, KIDNEYS, BLOOD AND REPRODUCTIVE SYSTEM. POSSIBLE CANCER HAZARD. MAY CAUSE CANCER BASED ON ANIMAL DATA. Risk of cancer depends on duration and level of exposure.

Label Precautions:
Do not get in eyes, on skin, or on clothing. Do not breathe dust. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

Label First Aid:
If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. In all cases, get medical attention.

Product Use:
Laboratory Reagent.

Revision Information:
Pure. New 16 section MSDS format, all sections have been revised.

Disclaimer:
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